

ABSTRACT OF THE DISCLOSURE

An electronic flow measurement device (EFM), for use in conjunction with a flow meter in a pressurized gas line, has a microprocessor and read-only memory (ROM), and calculates and records gas flow rates corrected for variable factors such as gas pressure, temperature, and density. Look-up tables stored in the ROM contain intermediate values calculated in accordance with selected protocols for selected ranges of input variables such as gas temperature, pressure, density, and turbine "K" factors. Based on inputs received from gas temperature and pressure sensors, the EFM selects corresponding intermediate values from the look-up tables, and then uses these values to calculate corrected gas flow rates, using software residing in the EFM. The microprocessor's power consumption is significantly reduced because the use of look-up tables reduces the complexity and extent of calculations that the EFM needs to perform, as compared with performing all required calculations in the EFM.